

Claims

1. In a code division multiple access communication system, a method
2 comprising:

3 determining a rate of change of a carrier to interference ratio (C/I) of a
4 communication channel received at a receiver; and
5 determining a gain level of said communication channel based on said
6 rate of change of said C/I for transmission of said communication channel to said
7 receiver.

2. The method as recited 1 further comprising:

3 determining whether said rate of change of said C/I is positive; and
4 subtracting a gain margin from said gain level of said communication
5 channel to produce a final gain level for transmission of said communication
6 channel to said receiver.

3. The method as recited in claim 2 wherein a magnitude of said gain margin
2 corresponds proportionally to a magnitude of said rate of change of said C/I.

4. The method as recited in claim 2 wherein said subtracting includes
2 increasing a data rate of said communication channel.

5. The method as recited in claim 2 wherein said subtracting includes
2 decreasing a power level of said communication channel.

6. The method as recited in claim 2 further comprising transmitting said
2 communication channel to said receiver at said final gain level.

7. The method as recited in claim 1 further comprising:
2 determining whether said rate of change of said C/I is negative; and
adding a gain margin to said gain level of said communication channel to
4 produce a final gain level for transmission of said communication channel to said
receiver.

8. The method as recited in claim 7 wherein a magnitude of said gain margin
2 corresponds proportionally to a magnitude of said rate of change of said C/I.

9. The method as recited in claim 7 wherein said adding includes decreasing
2 a data rate of said communication channel.

10. The method as recited in claim 7 wherein said adding includes increasing
2 a power level of said communication channel.

11. The method as recited in claim 7 further comprising transmitting said
2 communication channel to said receiver at said final gain level.

12. The method as recited in claim 1 further comprising:

- 2 determining a mobility level of said communication channel; and
determining whether said determined mobility level meets a low mobility
4 threshold, wherein said determining said gain level of said communication
channel based on said rate of change of C/I depends on whether said
6 determined mobility level meets said low mobility threshold.

13. In a communication system, an apparatus comprising:

- 2 a receiver for receiving a communication channel; and
a controller configured for determining a rate of change of a carrier to
4 interference ratio (C/I) of said communication channel and determining a gain
level of said communication channel based on said rate of change of said C/I for
6 transmission of said communication channel to said receiver.

14. The apparatus as recited in claim 13 wherein said communication system

- 2 is a code division multiple access communication system.

15. The apparatus as recited 13 wherein said controller is configured for

- 2 determining whether said rate of change of said C/I is positive and subtracting a
gain margin from said gain level of said communication channel to produce a
4 final gain level for transmission of said communication channel to said receiver.

16. The apparatus as recited in claim 13 wherein a magnitude of said gain
2 margin corresponds proportionally to a magnitude of said rate of change of said
C/I.

17. The apparatus as recited in claim 15 wherein said subtracting includes
2 increasing a data rate of said communication channel.

18. The apparatus as recited in claim 15 wherein said subtracting includes
2 decreasing a power level of said communication channel.

19. The apparatus as recited in claim 15 further comprising a transmitter for
2 transmitting said communication channel to said receiver at said final gain level.

20. The apparatus as recited 13 wherein said controller is configured for
2 determining whether said rate of change of said C/I is negative and adding a gain
margin to said gain level of said communication channel to produce a final gain
4 level for transmission of said communication channel to said receiver.

21. The apparatus as recited in claim 20 wherein a magnitude of said gain
2 margin corresponds proportionally to a magnitude of said rate of change of said
C/I.

22. The apparatus as recited in claim 20 wherein said adding includes

2 decreasing a data rate of said communication channel.

23. The apparatus as recited in claim 20 wherein said adding includes

2 increasing a power level of said communication channel.

24. The apparatus as recited in claim 20 further comprising a transmitter for

2 transmitting said communication channel to said receiver at said final gain level.

25. The apparatus as recited in claim 13 wherein said controller is configured

2 for determining a mobility level of said communication channel and determining

whether said determined mobility level meets a low mobility threshold, wherein

4 said determining said gain level of said communication channel based on said

rate of change of C/I depends on whether said determined mobility level meets

6 said low mobility threshold.

26. In a code division multiple access communication system, an apparatus

2 comprising:

means for determining a rate of change of a carrier to interference ratio

4 (C/I) of a communication channel received at a receiver; and

means for determining a gain level of said communication channel based

6 on said rate of change of said C/I for transmission of said communication

channel to said receiver.

27. The apparatus as recited 26 further comprising:

- 2 means for determining whether said rate of change of said C/I is positive;
and
4 means for subtracting a gain margin from said gain level of said
communication channel to produce a final gain level for transmission of said
6 communication channel to said receiver.

28. The apparatus as recited in claim 27 further comprising means for
2 transmitting said communication channel to said receiver at said final gain level.

29. The apparatus as recited 26 further comprising:

- 2 means for determining whether said rate of change of said C/I is negative;
and
4 means for adding a gain margin to said gain level of said communication
channel to produce a final gain level for transmission of said communication
6 channel to said receiver.

30. The apparatus as recited in claim 29 further comprising means for
2 transmitting said communication channel to said receiver at said final gain level.

31. The apparatus as recited in claim 26 further comprising:

- 2 means for determining a mobility level of said communication channel;
and

4 means for determining whether said determined mobility level meets a low
mobility threshold, wherein said means for determining said gain level of said
6 communication channel based on said rate of change of C/I depends on whether
said determined mobility level meets said low mobility threshold.

32. In a communication system, an apparatus comprising:

2 means for receiving a communication channel; and
means for a controller configured for determining a rate of change of a
4 carrier to interference ratio (C/I) of said communication channel and determining
a gain level of said communication channel based on said rate of change of said
6 C/I for transmission of said communication channel to said receiver.

33. The apparatus as recited 32 wherein said means for said controller is
2 configured for determining whether said rate of change of said C/I is positive, and
subtracting a gain margin from said gain level of said communication channel to
4 produce a final gain level for transmission of said communication channel to said
receiver.

34. The apparatus as recited in claim 33 further comprising means for a
2 transmitter for transmitting said communication channel to said receiver at said
final gain level.

35. The apparatus as recited 32 wherein said means for said controller is
2 configured for determining whether said rate of change of said C/I is negative
and adding a gain margin to said gain level of said communication channel to
4 produce a final gain level for transmission of said communication channel to said
receiver.

36. The apparatus as recited in claim 35 further comprising means for a
2 transmitter for transmitting said communication channel to said receiver at said
final gain level.

37. The apparatus as recited in claim 33 wherein said means for said
2 controller is configured for determining a mobility level of said receiver and
determining whether said determined mobility level meets a low mobility
4 threshold, wherein said determining said gain level of said communication
channel based on said rate of change of C/I depends on whether said
6 determined mobility level meets said mobility threshold.

38. In a code division multiple access communication system, a method
2 comprising:

determining a rate of change of a carrier to interference ratio (C/I) of a
4 communication channel received at a receiver;

adjusting a gain level of said communication channel based on said rate of
6 change of said C/I for transmission of said communication channel to said
receiver; and

8 determining whether said rate of change of said C/I is positive or negative;

wherein said adjusting includes subtracting, if said rate of change of C/I is
10 positive, a gain margin from said gain level of said communication channel to
produce a final gain level for transmission of said communication channel to said
12 receiver;

wherein said adjusting includes, adding, if said rate of change of C/I is
14 negative, a gain margin to said gain level of said communication channel to
produce said final gain level for transmission of said communication channel to
16 said receiver, wherein a magnitude of said gain margin corresponds
proportionally to said magnitude of said rate of change of said C/I.

39. The method as recited in claim 38 further comprising transmitting said
2 communication channel to said receiver at said final gain level.